Request for Economic Stimulus Funds
Concept Proposal

Submitters (Name of Workgroup & Chair/Co-Chairs): **Kentucky Center for Mathematics, Jim Justice (chair), Kirsten Fleming (co-chair), and Laura Bristol (co-chair).**

Project Title: **Mathematics Achievement Coaches: Enhancing High School Teacher Retention**

Project Partners (Known or Anticipated): **Eastern Kentucky University, Murray State University, the University of Kentucky, the University of Louisville, and Western Kentucky University each partner with the KCM on the existing state wide mathematics coaching program. We anticipate that each of these institutions would also participate in the proposed project.**

Project Background & Purpose (Justification for Project)

The purpose of the project is to increase the teaching effectiveness of new secondary mathematics teachers and to raise retention rates for these teachers. This will be accomplished by providing 120 Kentucky teachers in their 2nd, 3rd, or 4th year of teaching with the support of a Mathematics Achievement Coach (support during the first year being provided through KTIP).

In Kentucky, student achievement in mathematics is suffering. A Kentucky Department of Education report of student performance on the ACT indicated that only 20% of juniors tested in spring 2008 received a mathematics score that was sufficiently high for placement into college algebra.[1] In addition, the 2007 report of NAEP test results revealed that 69% of 8th graders had an achievement level of "basic" in mathematics, an indication that a majority of freshman in Kentucky are underprepared for high school mathematics.[2] The challenges of teaching high school mathematics in the current climate are significant. New teachers must accept and negotiate these challenges in order to succeed. The fact that many find the challenge overwhelming is reflected in the reality that for the last ten years, secondary mathematics has been a federally designated teacher shortage area in Kentucky.[3]

Research on effective teacher induction programs points to several factors that reduce teacher attrition and increase teaching effectiveness. According to the Alliance for Excellent Education, "Comprehensive induction is a combination of mentoring, professional development and support, and formal assessments for new teachers during at least their first two years of teaching."[4] They recommend five components for an effective induction program: high-quality mentoring, common planning time, ongoing professional development, an external network of teachers, and standards-based evaluation.[5]

Coaches can provide new teachers with high-quality mentoring, ongoing professional development, and access to an external network of teachers – three of the five components for effective induction

programs recommended above. By working with a coach, new teachers engage in professional development that is "intensive, ongoing, and connected to practice," qualities which exemplify effective professional development according to a new National Staff Development Council study.[6] In addition, in his speech at the University of Northern Iowa on April 24, 2009, Education Secretary Arne Duncan specifically mentioned coaching for new teachers as an ideal use of economic stimulus funds.[7]

The Kentucky Center for Mathematics (KCM) has organized training and support for 106 mathematics coaches in K-12 schools throughout Kentucky in the last 3 years. This base of experience and expertise has informed the following proposed plan to equip Mathematics Achievement Coaches to provide the support required to develop and retain effective new mathematics teachers.

Project Description (General Goals & Implementation Strategies)

The KCM and partners will coordinate the selection, training, and ongoing support of 12 Mathematics Achievement Coaches whose primary goal is to raise the teaching effectiveness and retention rate high school mathematics teachers in their 2nd, 3rd, or 4th year of teaching by providing them with up to two years of coaching and mentoring beyond the internship year.

The Mathematics Achievement Coach (MAC) will (1) provide high-quality mentoring and coaching which uses data collection and dialogue to help new teachers plan, reflect, and problem-resolve more effectively; (2) provide ongoing professional development by helping new teachers set goals for identified areas for growth (content knowledge, pedagogical knowledge, classroom management strategies, etc.) and then increasing their resourcefulness to ensure these goals are achieved; and (3) facilitate the creation of a professional learning community for new teachers that promotes collegiality and provides opportunities for the sharing of resources and professional learning.

To help foster resourcefulness, confidence, and job satisfaction in new teachers, MACs will be provided with extensive coaching training. MACs will attend the eight-day Cognitive Coaching Foundation Seminar during their first year. Their knowledge and skills will be expanded and refined the following year by attending the five-day Cognitive Coaching Advanced Seminar. Further, MACs will attend the fall Kentucky Council of Teachers of Mathematics Annual Conference and the spring Kentucky Teaching and Learning Conference or the spring KCM Numeracy Conference. In their second year, MACs will share their knowledge with peers during a presentation at one of the state conferences. In addition to their training, MACs will receive the ongoing support of a KCM Regional Coordinator through weekly online Centra meetings and quarterly visits.

Project Team (Project Manager(s), Content Experts, Instructional Designers, etc.):

Jim Justice (Director of Coaching), Laura Bristol (Assistant Director of Coaching), and Kirsten Fleming (Executive Director), will manage the project.

Cognitive Coaching will provide the coaching training for the 12 Mathematics Achievement Coaches. The Committee for Mathematics Achievement selected Cognitive Coaching for Kentucky's statewide coaching program.

Regional Coordinators housed at public postsecondary institutions in Kentucky will provide support for the Mathematics Achievement Coaches. The five institutions listed in the project partner section each have a regional coordinator experienced in such support.

The content/pedagogical content knowledge training available to the 120 teachers in their early years of teaching will be a function of the individual needs of the teacher and his/her geographical location. The goal is to build on existing proven professional development opportunities such as those offered by the Partnership Institute for Math and Science Education Reform at the University of Kentucky.

The evaluation team might include staff from the Center for Evaluation and Education Policy at the University of Indiana, the Burkardt Consulting Center at Northern Kentucky University, or the Evaluation Services Center at the University of Cincinnati.

Project Budget & Amount of Economic Stimulus Funds Requested:

The budget (detail attached) being requested is $1,992,539 over a 2-year period to train and support 12 Mathematics Achievement Coaches to work with 120 high school mathematics teachers in their early years of teaching. It is expected that these 120 teachers will impact 12,000-15,000 high school students per year.

Budget

EXPENDITURE CATEGORY	Cost	Comment
SALARY		
Academic Year Salary	1,080,000	12@$45K for 9 months x 2 years
Summer Salary	120,000	12@$5K for 1 month x 2 summers
TOTAL	**1,200,000**	
BENEFITS		
Academic Year Benefits	306,000	15% of salary plus $6000 per person per year for health insurance x 2 years
Summer benefits	9,180	7.65% of summer salary (FICA) x 2 years
TOTAL	**315,180**	
MAC TRAVEL		
Hotel	22,560	13 days x $110/day + 3 days x $150/day
Travel	12,600	7 trips x $150/trip
Meals	4,416	$23 for lunch and dinner x 16 days
TOTAL	**39,576**	
SUPPLIES		
Supplies for MACS	24,000	$1000 per MAC per year x 2 years
Supplies for Coaching Training	9,600	$400 per MAC per year x 2 years
Centra license	5,400	$250 per MAC in year 1, $200 per MAC in year 2
TOTAL	**39,000**	
VENDOR COSTS		
Cognitive Coaching Training	26,000	$2000 per day x 13 days
Cognitive Coaching Travel	5,500	4 (2-day) trips@$1000 per trip, 1 (5-day) trip@$1500
TOTAL	**31,500**	
Teacher Professional Development	120,000	$1000 per beginning teacher based on average of 10 beginning teachers per MAC
KCTM & KTLC Registration	2,400	$200 per MAC
TOTAL	**122,400**	
REGIONAL COORDINATOR (RC) SUPPORT		
Salary	133,883	1 RC at $48K per AY x 2 years + benefits plus summer
Travel	6,000	$3000 per year x 2 years
Materials	5,000	$2500 per year x 2 years
TOTAL	**144,883**	
EVALUATION	100,000	$50K per year x 2 years
TOTAL	**100,000**	
OVERALL TOTAL	**1,992,539**	

References

1) Kentucky Department of Education (n.d.). *2008 ACT-Tested Juniors - State Profile Report*. Retrieved April 28, 2009 from http://www.education.ky.gov/KDE/Administrative+Resources/Testing+and+Reporting+/Reports/2008+ACT+Tested+Juniors.htm
2) National Center for Education Statistics (n.d.). *The Nation's Report Card.* Accessed April 28, 2009 at http://nces.ed.gov/nationsreportcard/states/profile.asp
3) United States Department of Education (2009, March). *Teacher Shortage Areas, National Listing, 1990-91 thru 2009-10.* Retrieved April 28, 2009 from http://www.ed.gov/about/offices/list/ope/pol/tsa.pdf
4) Alliance for Excellent Education (n.d.). *Tapping the Potential: Retraining and Developing High Quality New Teachers.* Washington, DC: Author, p. 2. Retrieved February 20, 2009 from http://www.nctaf.org/documents/TappingThePotential.pdf
5) *Ibid*., p. 3. http://www.nctaf.org/documents/TappingThePotential.pdf
6) National Staff Development Council (2009, February). *Professional Learning in the Learning Profession: A Status Report on Teacher Development in the United States and Abroad*, p. 5. Retrieved April 29, 2009 from http://www.nsdc.org/stateproflearning.cfm
7) Quaid, Libby (2009, April 24). Obama administration suggests spending stimulus money on teacher pay, summer classes. *Associated Press*. Retrieved April 29, 2009 from http://www.newsday.com/news/politics/wire/sns-ap-us-stimulus-education,0,5564215.story